APPARATUS, SYSTEM, AND METHDO FOR MODELING FOR STORAGE PROVISIONING
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100

106

104

108

102

110

112

114

116

118
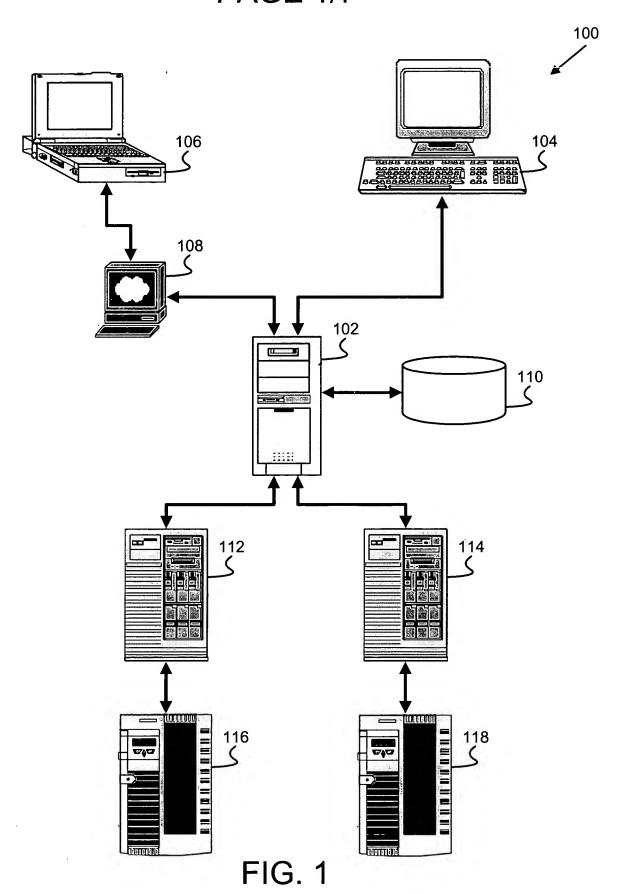
FIG. 1

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200

Application Layer 202

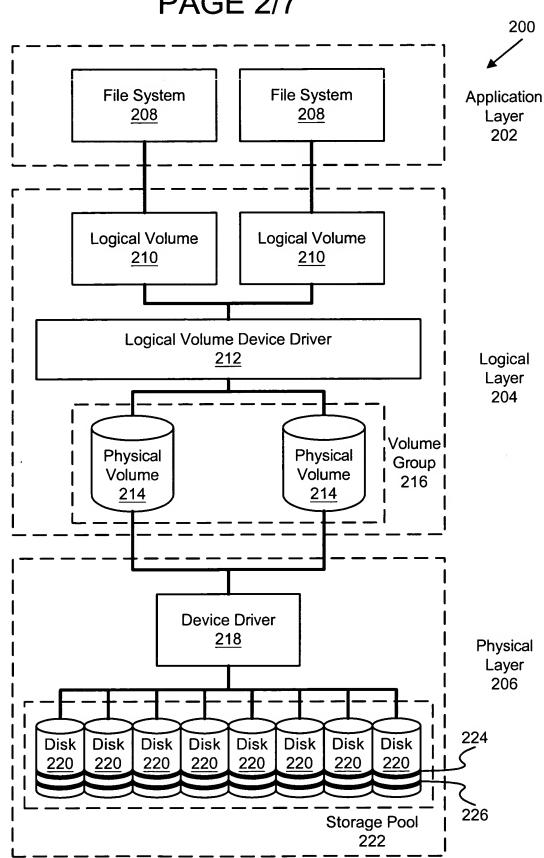File System 208

File System 208

Logical Volume 210

Logical Volume 210

Logical Volume Device Driver 212

Physical Volume 214

Physical Volume 214

Volume Group 216

Logical Layer 204

Device Driver 218

Physical Layer 206

Disk 220
Disk 220
Disk 220
Disk 220
Disk 220
Disk 220
Disk 220
Disk 220

224

226

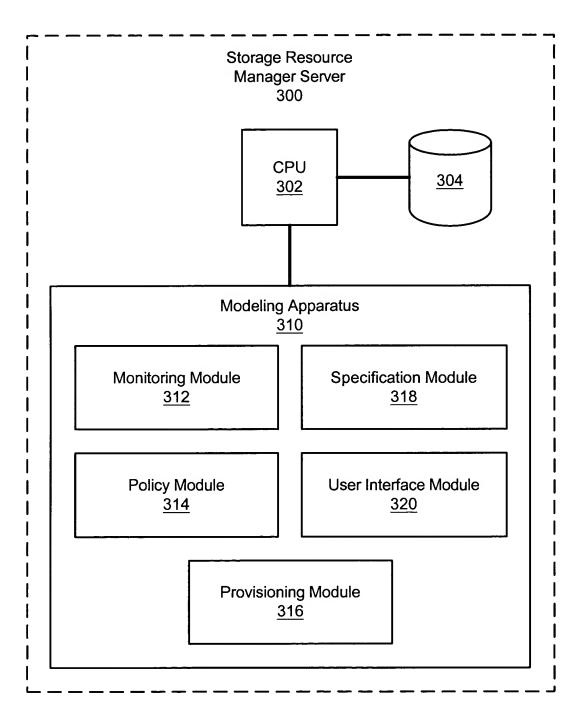Storage Pool 222

FIG. 2
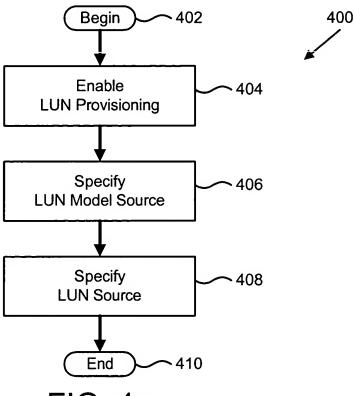
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Storage Resource
Manager Server
300

CPU
302

304

Modeling Apparatus
310

Monitoring Module
312

Specification Module
318

Policy Module
314

User Interface Module
320

Provisioning Module
316

FIG. 3

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Begin ~ 402

400

Enable
LUN Provisioning ~ 404

Specify
LUN Model Source ~ 406

Specify
LUN Source ~ 408

End ~ 410

FIG. 4a

Begin ~ 422

420

Identify Storage Server ~ 424

Identify Storage Pool ~ 426

Identify Connectivity
between Storage Server
and Client ~ 428

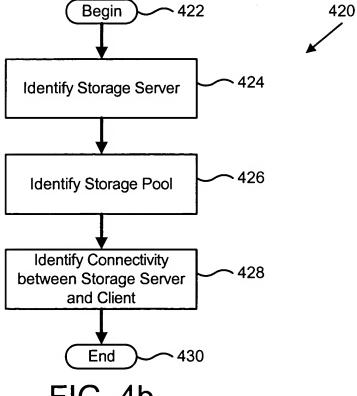End ~ 430

FIG. 4b

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500

(Begin) ~502

Receive Storage Alert
from Storage Resource
Manager Server   ~504

506
Model Provisioning
Enabled?   NO → (B1)
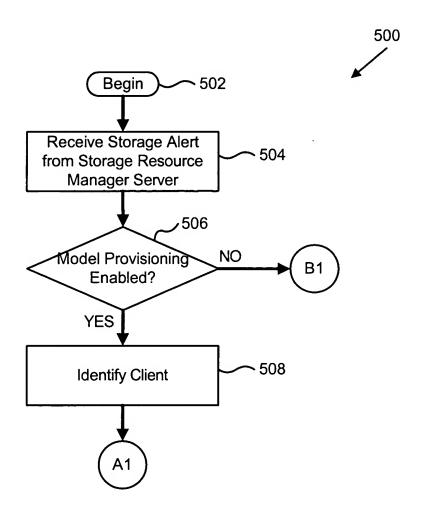
YES

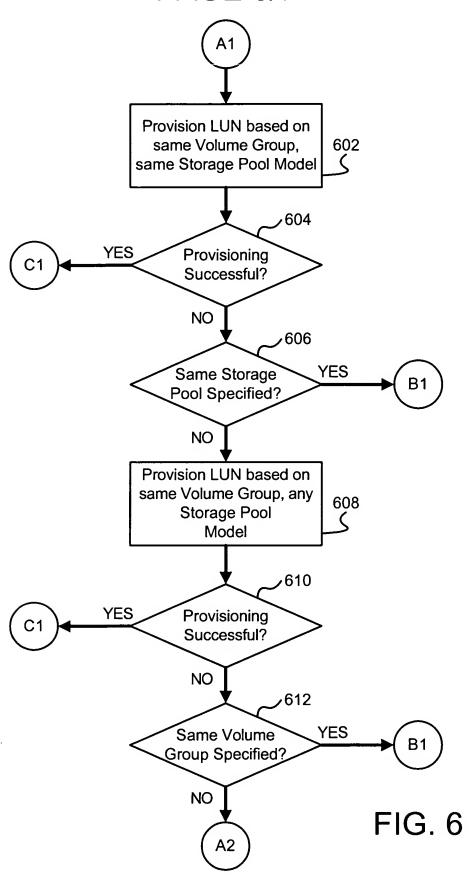Identify Client   ~508

(A1)

FIG. 5

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A1

Provision LUN based on same Volume Group, same Storage Pool Model   602

604
Provisioning Successful?
YES → C1
NO

606
Same Storage Pool Specified?
YES → B1
NO

Provision LUN based on same Volume Group, any Storage Pool Model   608

610
Provisioning Successful?
YES → C1
NO

612
Same Volume Group Specified?
YES → B1
NO

A2

FIG. 6

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A2

Provision LUN based on
any Volume Group,
same Storage Pool
Model   702

704

C1 ← YES Provisioning
Successful?

NO

Provision LUN based on
any Volume Group,
any Storage Pool
Model   706

B1

710

708

Provisioning
Successful? → NO → Notify Storage System
Administrator of
Storage Alert

YES

End 712

FIG. 7